

ABSTRACT

5 A rotary fluid machine, such as a pump or motor, is
provided with a fluid flow control mechanism that allows the
flow of fluid to be easily and precisely controlled. The
device has a housing with a spherical interior in which
primary and secondary vanes rotate, with the secondary vane
reciprocating between open and closed positions. The
primary and secondary vanes define fluid chambers within the
housing that communicate with inlet and outlet ports of the
10 device. An adjustable fixed shaft, about which the
secondary vane rotates, allows the degree of communication
to be varied between the inlet and outlet ports and the
chambers formed by the primary and secondary vanes. In this
way, the flow rate or fluid capacity of the device, and even
15 the direction of fluid flow, can be changed.

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